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INFLUENCE OF INTEREST RATE DYNAMICS ON CREDIT RISK AND DEPOSIT MONEY BANK PERFORMANCE IN NIGERIA

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Abstract

This study examines the effect of credit risk on the financial performance of Deposit Money Banks (DMBs) in Nigeria, with particular emphasis on the moderating role of interest rate. Using a balanced panel dataset of eleven banks over the period 2013–2022, the study employs panel regression analysis, specifically the random effects model, to estimate the relationships among the variables. Financial performance is proxied by the price-earnings ratio (PE), while credit risk is measured using the ratio of non-performing loans (NPL), and interest rate is included as a moderating variable. The findings reveal that non-performing loans have a negative and statistically significant effect on financial performance, indicating that higher credit risk deteriorates bank performance. Interest rate also exhibits a negative and significant direct effect on performance, suggesting that rising interest rates may reduce profitability and increase default risk. However, the interaction between non-performing loans and interest rate is not statistically significant at the conventional 5% level, implying a weak moderating effect. The study concludes that credit risk is a key determinant of bank performance in Nigeria, while interest rate plays a limited moderating role. It recommends improved credit risk management practices and balanced monetary policy to enhance banking sector stability.

Keywords: Credit Risk, Non-Performing Loans, Financial Performance, Interest Rate, Panel Data, Deposit Money Banks

1. Introduction

The economic well-being of nations is intricately tied to the operational efficacy and performance of their financial institutions. This performance extends beyond the mere accumulation of assets and encompasses the returns these institutions yield for the broader economy and their stakeholders (Nazmoon, 2023). Measuring financial performance entails diverse perspectives; however, traditional metrics such as accounting net worth exhibit inherent inconsistencies due to accounting principles like historical cost and conservatism. Consequently, there arises a necessity for market-based performance indicators, such as the price-earnings ratio (P/E), which furnish insights into a firm's market presence and its outstanding shares (Hudu, Bala, & Ayuba, 2021). The P/E ratio is widely regarded as a key tool for evaluating the financial performance of publicly listed firms on stock exchanges, leveraging the dynamics of an efficient market (Osunkoya, Ikpefan, & Olokoyo, 2023; Rinchen, 2023).

Deposit Money Banks (DMBs), as pivotal financial intermediaries, assume a central role in the management of credit to uphold financial stability within the economy (Eniafe, 2020). Economic stagnation and recessions are often precipitated by credit risk exposures within the purview of DMBs (Osunkoya, Ikpefan, & Olokoyo, 2023). One of the most prominent manifestations of such exposure is the prevalence of non-performing loans (NPLs) within the financial system. The provision of credit constitutes a fundamental function of DMBs, thereby explaining the rising incidence of NPLs in the banking landscape (Ihemeje, Ugwuanyi, & Efanga, 2022). Furthermore, DMBs experiencing heightened credit risk, characterized by increasing NPLs, are often compelled to adopt costly recovery strategies such as engaging collection agents, increasing legal expenditures, restructuring loan terms, or disposing of loan portfolios below market value, all of which adversely affect their efficiency and market performance (Nurul et al., 2022; Karadima & Louri, 2021).

In addition, the fragility of economic activities and the vulnerability of macroeconomic policies, particularly interest rate fluctuations, further influence the level of credit risk faced by DMBs and may consequently affect their financial performance (Anita, Tasnova, & Nawar, 2022). In Nigeria, interest rates are largely determined by the Monetary Policy Committee of the Central Bank of Nigeria, thereby shaping the lending behavior of banks and the cost of borrowing within the economy. Despite the acknowledged importance of interest rates, their role in moderating the relationship between credit risk and financial performance remains insufficiently explored in the Nigerian context.

Nigeria, as a developing economy, relies heavily on Deposit Money Banks for financial intermediation, particularly in the absence of a fully developed capital market. However, the Nigerian banking sector has recently experienced persistent challenges, including bank failures linked to poor financial performance and declining earnings. A major contributor to these challenges is the rising level of non-performing loans (Msomi, 2022). Notably, Nigerian banks have been reported to exhibit some of the highest NPL ratios among African countries, posing a significant threat to their market share and overall financial performance (Nwosu, Okedigba, & Anih, 2020). Despite numerous empirical studies investigating the relationship between NPLs and financial performance, the issue remains unresolved (Naili & Lahrichi, 2022).

Moreover, there is a limited body of empirical evidence in Nigeria examining how macroeconomic variables, particularly interest rate, influence the relationship between credit risk and financial performance. Specifically, existing studies have not sufficiently addressed how interest rate moderates the nexus between non-performing loans and the price-earnings ratio (P/E) of Deposit Money Banks. This gap underscores the need for a comprehensive investigation into the moderating role of interest rate in the relationship between credit risk and financial performance of Deposit Money Banks in Nigeria.

In view of the foregoing, this study is guided by the following research questions: What is the relationship between non-performing loans and the financial performance of Deposit Money Banks in Nigeria? What is the moderating effect of interest rate on non-performing loans? And to what extent does interest rate moderate the relationship between credit risk and financial performance of Deposit Money Banks in Nigeria?

The main objective of this study is to evaluate the moderating role of interest rate on the relationship between credit risk and financial performance of Deposit Money Banks in Nigeria. Specifically, the study seeks to:

i. Determine the relationship between non-performing loans (NPL) and the financial performance of Deposit Money Banks in Nigeria.
ii. Examine the moderating effect of interest rate on non-performing loans of Deposit Money Banks in Nigeria.
iii. iii. Evaluate the moderating effect of interest rate on the financial performance of Deposit Money Banks in Nigeria.

The hypotheses of this study are stated in null form as follows:

i. There is no significant relationship between non-performing loans and the financial performance of Deposit Money Banks in Nigeria.
ii. Interest rate has no significant moderating effect on non-performing loans of Deposit Money Banks in Nigeria.
iii. Interest rate has no significant moderating effect on the financial performance of Deposit Money Banks in Nigeria.

2. Literature Review

2.1 Conceptual Review

This section examines the key concepts underpinning the study, namely financial performance, non-performing loans, and interest rate.

Financial Performance

Financial performance refers to the process that promotes positive financial changes within an organization and enhances operational efficiency (Mashkour, SadaKhlaif and Imran, 2021). It reflects how well a firm utilizes its resources to generate earnings and maximize shareholders' value. Various indicators such as capital employed, profitability, return on assets (ROA), return on investment (ROI), earnings per share (EPS), price-earnings ratio (P/E), and net income after tax (NIAT) are commonly used to measure financial performance (Ombaka & Jagongo, 2018).

In this study, financial performance is proxied by the price-earnings ratio (P/E), as it captures market-based valuation and reflects investors' expectations regarding future earnings. The P/E ratio provides insights into market performance and is sensitive to macroeconomic conditions, making it suitable for evaluating the performance of Deposit Money Banks.

Non-Performing Loans (NPL)

Non-performing loans refer to defaulted loans that banks are unable to recover within the stipulated time frame as defined by regulatory guidelines (Patersson & Wadman, 2014). According to International Monetary Fund (2019), a loan is classified as non-performing when interest or principal payments are overdue for 90 days or more, or when interest has been capitalized, refinanced, or rolled over.

NPLs generally represent loans that fail to generate income over an extended period, typically beyond 90 days (Ihemeje, Ugwuanyi & Efanga, 2022). High levels of NPLs indicate poor asset quality and increased credit risk, which can significantly impair the profitability and financial stability of banks.

Interest Rate

Interest rate is the cost of borrowing or the return on lending, expressed as a percentage per annum (Alzaidy, Ahmadi &i Lachehebi, 2017). It represents the price of money and plays a critical role in influencing borrowing and lending decisions within an economy.

The interest rate considered in this study is the short-term interest rate, which is primarily controlled by the central bank rather than market forces. As noted by Ã–zcan and Olcay (2021), short-term interest rates are determined by monetary authorities, and other rates in the economy are influenced by current rates and expectations about future movements. Consequently, interest rate serves as an important macroeconomic variable that can influence both credit risk and financial performance.

2.2 Empirical Review

Empirical studies have extensively examined the relationship between non-performing loans and financial performance, yielding mixed results across different contexts.

Syntia and Santioso (2023) investigated the impact of non-performing loans on financial performance using multiple linear regression analysis. Their findings revealed that NPL has a significant negative effect on financial performance, and they recommended that bank management should continuously monitor and improve performance by addressing underlying risk factors.

Khoirunisa and Karnasi (2023) examined determinants of credit risk using panel data from 36 conventional banks and found that return on assets (ROA) negatively affects NPLs, while inflation exerts a positive influence. Similarly, Rinchen (2023), using time-series data, found that increased funding costs and higher credit growth contribute to rising NPL levels.

Ugwuanyi, Obinne, and Okon (2022) employed an OLS regression approach and reported a negative but insignificant relationship between NPLs and return on capital employed, suggesting the need for stronger regulatory oversight. In contrast, Çollaku and Aliu (2021) found that NPLs have a significant negative effect on profitability, indicating that increased credit risk reduces bank performance.

Al-Amin, Rahman and Hossain (2021) also reported that NPLs adversely affect financial performance and emphasized the need for effective management strategies to control loan defaults. Similarly, Swandewi and Purnawati (2021) found a negative and significant relationship between NPL and capital adequacy ratio (CAR), while Nugroho, Arif and Halik (2021) reported that NPL does not significantly affect CAR, highlighting inconsistencies in empirical findings.

Alshebmi, Adam, Mustafa, Thomran and Fathelbab (2020) revealed a weak negative relationship between NPL and financial performance indicators, while Liyana and Indrayani (2020) found no significant effect of NPL on ROA or CAR. Furthermore, Eniafe (2020) confirmed that NPL significantly impacts the performance of Deposit Money Banks and recommended improved credit policies.

Overall, empirical evidence suggests that while most studies report a negative relationship between NPL and financial performance, the magnitude and significance of this relationship vary across contexts, thereby justifying further investigation.

2.3 Theoretical Review

This study is anchored on two key theories: the Theory of Information Asymmetry and the Credit Risk Theory.

Theory of Information Asymmetry

The Theory of Information Asymmetry, introduced by Akerlof (1970), posits that unequal distribution of information between lenders and borrowers can lead to inefficient market outcomes and increased loan defaults. In financial markets, borrowers often possess more information about their repayment capacity than lenders, creating a risk of adverse selection and moral hazard.

Kemei and Kerongo (2014) attribute high levels of non-performing loans to information gaps between banks and borrowers. Similarly, Nwosu, Okedigba, and Anih (2020) argue that imperfect information regarding borrowers' creditworthiness increases the likelihood of default and adversely affects bank performance.

Dell'Ariccia (2001) suggests that improved credit assessment and information systems can reduce the incidence of NPLs by enabling banks to make better lending decisions. However, the cost and complexity of obtaining accurate information often limit the effectiveness of such measures.

Credit Risk Theory

Credit Risk Theory emphasizes the importance of managing the risk associated with lending activities. It posits that financial institutions must carefully evaluate borrowers' ability to repay loans in order to minimize default risk and maintain financial stability.

According to Makri, Tsagkanos, and Bellas (2014), poor credit risk management leads to adverse selection, where high-risk borrowers dominate loan portfolios, thereby increasing the likelihood of non-performing loans. This, in turn, negatively affects bank profitability and overall performance.

The theory further highlights the need for effective risk assessment, monitoring, and control mechanisms to reduce NPLs and enhance financial performance. In the context of this study, Credit Risk Theory explains how poor loan quality translates into reduced profitability and market valuation of banks.

Theoretical Link to the Study

The Theory of Information Asymmetry explains the underlying causes of non-performing loans, while Credit Risk Theory provides insight into how these loans impact financial performance. Together, these theories offer a comprehensive framework for understanding the relationship between credit risk and financial performance, as well as the role of interest rate in influencing this relationship.

3. Methodology

In this research study, we employed an explanatory approach because our main objective was to investigate the presence of a relationship and understand how credit risk influences the financial performance of Deposit Money Banks (DMBs) in Nigeria. We chose a quantitative research design because our study involved gathering data from secondary sources, specifically the financial statements of the DMBs.

3.1 Population and sample size

The population of the study includes the entire DMBs have been listed on the floor of the Nigerian stock exchange as at 31st December, 2012. Based on this therefore the population of the study is twenty-one. However, just like the study of Syntia and Santioso (2023); Ugwuanyi, Obinne and Okon (2022); Al-Amin, Rahman and Hossain (2021), this study used a purposive sampling technique to select 11 DMBs as the sample of this study. Data was therefore sourced from the annual accounts, reports and/or financial statement of the DMBs in the sample.

3.2 Variables Measurement and Model Specification

This study adopts the model of Syntia and Santioso (2023), hence the measurement variables are defined in table 1.

Table 1: Variable Measurement and Apriori Expectation

Variable	Variable Definition	Measurement	Source	Apriori Expectation
Financial Performance (DV)	Price-Earnings Ratio (PE)	Market price per share ÷ Earnings per share (as reported in financial statements)	Pradeep, Shailendra & Piyush (2016)	—
Credit Risk (IV)	Non-Performing Loan Ratio (NPL)	Ratio of non-performing loans to total loans (expressed in proportion form, not percentage)	Nugroho, Arif & Halik (2021)	$\beta_1 < 0$
Interest Rate (Control Variable)	Interest Rate (INTR)	Natural logarithm of annual interest rate (values already transformed in dataset)	Ishaq & Usman (2022)	$\beta_2 \pm$

Source: Researchers Computation, (2023)

3.3 Model Specification

The model used in this study is specified functionally as:

$$P/E = f(NPL, INTR, NPL \times INTR)$$

The econometric form of the model is expressed as:

$$P/E_{it} = \beta_0 + \beta_1 NPL_{it} + \beta_2 INTR_{it} + \beta_3 (NPL_{it} \times INTR_{it}) + \mu_{it}$$

Where:

- P/E_{it}: Price-Earnings ratio of bank *i* at time *t*, used as a proxy for financial performance.

- β_0: Constant term (intercept).
- β_1: Coefficient measuring the effect of non-performing loans on financial performance.
- β_2: Coefficient capturing the direct effect of interest rate.
- β_3: Coefficient of the interaction term representing the moderating effect of interest rate on the relationship between non-performing loans and financial performance.
- NPL_{it}: Non-performing loan ratio of bank *i* at time *t*.
- $INTR_{it}$: Interest rate of bank *i* at time *t* (already expressed in natural logarithmic form).
- $NPL_{it} \times INTR_{it}$: Interaction term between credit risk and interest rate.
- μ_{it}: Error term capturing unobserved factors.
- i: Cross-sectional units representing the selected Deposit Money Banks (11 DMBs).
- t: Time dimension covering the period 2013–2022.

Apriori Expectations

The study expects that:

$$\beta_1 < 0, \beta_2 = \pm, \beta_3 = \pm$$

- $\beta_1 < 0$: Non-performing loans are expected to negatively affect financial performance.
- $\beta_2 = \pm$: Interest rate may have either a positive or negative effect.
- $\beta_3 = \pm$: The moderating effect of interest rate may either strengthen or weaken the relationship between NPL and financial performance.

3.4 Techniques of Data Analyses

In order to analyze the data for the study and to test the research hypotheses, the study made use of STATA statistical software version 14. Descriptive statistics was used to summarize the data for the study into more meaningful form. To assess the moderating roles of INTR on the relationship between NPL and P/E of the DMBs in Nigeria, panel data multiple regression analysis was used for the analysis and to test the formulated hypotheses at 5% level of significance.

4. Results and Discussion

4.1 Descriptive Statistics

Table 2: Descriptive Statistics of Variables

Variable	N	Minimum	Maximum	Mean	Std. Deviation
PE	110	0.656	13.188	9.32	2.89
NPL	110	0.007	1.875	0.284	0.339
INTR	110	2.086	2.937	2.56	0.27

Source: STATA Output, 2023

The descriptive statistics presented in Table 2 provide an overview of the distribution of the study variables across the sampled deposit money banks over the study period. The results show that financial performance, measured by the price-earnings ratio (PE), has a mean value of 9.32 with a standard deviation of 2.89, indicating a moderate level of dispersion among the banks. The minimum and maximum values of 0.656 and 13.188 respectively suggest the presence of wide variations in performance, implying that while some banks recorded very low market valuation, others exhibited relatively strong performance.

Similarly, credit risk, proxied by non-performing loans (NPL), recorded a mean value of 0.284 and a relatively high standard deviation of 0.339. This indicates substantial variability in the level of bad loans across the banks. The minimum value of 0.007 and maximum value of 1.875 further confirm the existence of extreme observations, suggesting that some banks maintained very low levels of credit risk while others experienced significant deterioration in asset quality. This variation reflects differences in credit risk management practices and loan portfolio quality among the banks.

Furthermore, interest rate (INTR), expressed in logarithmic form, has a mean value of 2.56 and a standard deviation of 0.27, indicating relatively low dispersion. The minimum and maximum values of 2.086 and 2.937 respectively suggest that interest rates remained fairly stable over the study period. This stability implies that macroeconomic conditions were relatively consistent, and variations in financial performance are more likely attributable to bank-specific factors rather than significant fluctuations in interest rates.

Overall, the descriptive statistics indicate that while interest rate remained relatively stable, there is considerable variation in both financial performance and credit risk among the sampled banks, highlighting the importance of examining the relationship between these variables.

4.2 Correlation Analysis

The correlation analysis provides the relationship between the variables that are used in this study as show in table 3.

Table 3: Correlation Matrix

Variable	PE	NPL	INTR
PE	1.000	-0.421**	0.118
NPL	-0.421**	1.000	0.236*
INTR	0.118	0.236*	1.000

Source: STATA Output, 2023

Correlation Analysis

The correlation matrix presented in Table 3 shows the relationships among the study variables. The results indicate that non-performing loans (NPL) have a negative and statistically significant relationship with financial performance (PE) ($r = -0.421$, $p < 0.01$), suggesting that an increase in credit risk is associated with a decline in bank performance. This finding is consistent with theoretical expectations, as higher levels of bad loans reduce profitability and investor confidence.

Furthermore, interest rate (INTR) exhibits a positive but weak and statistically insignificant relationship with financial performance (PE) ($r = 0.118$, $p > 0.05$), indicating that interest rate alone does not strongly influence bank performance within the study period.

In addition, a positive and statistically significant relationship is observed between interest rate and non-performing loans ($r = 0.236$, $p < 0.05$), implying that higher interest rates may contribute to an increase in loan defaults, thereby elevating credit risk.

Overall, the correlation coefficients are relatively low, and none exceed the threshold of 0.80, suggesting the absence of multicollinearity among the explanatory variables. This indicates that the variables can be included in the regression model without concern for redundancy or instability in the estimates.

4.3 Model Analysis

The Breusch–Pagan/Cook–Weisberg test for heteroskedasticity was conducted to examine whether the variance of the error terms is constant. The test produced a chi-square value of 9.63 with a corresponding p-value of 0.0010. Since the p-value is less than the 5% significance level, the null hypothesis of homoskedasticity is rejected, indicating the presence of heteroskedasticity in the model. Consequently, robust standard errors were employed to correct for this issue.

Furthermore, the overall significance of the regression model is confirmed by the F-statistic of 24.25 with a probability value of 0.000, indicating that the model is statistically significant and that the explanatory variables jointly influence financial performance.

To determine the most appropriate panel estimation technique, the Hausman specification test was conducted. The null hypothesis states that the random effects model is appropriate, while the alternative hypothesis favors the fixed effects model. The

Hausman test results yielded a chi-square value of 2.87 with a probability value of 0.4124, which is greater than the 5% significance level. Therefore, the null hypothesis is not rejected, indicating that the random effects model is more suitable for the analysis. Based on this result, the study adopts the random effects model as the preferred estimation technique for subsequent analysis.

Table 4: Regression Results (Random Effects Model)

Variable	Coef.	Std. Err.	t-value	p-value	95% Conf. Interval	Sig
NPL	-0.155	0.060	-2.59	0.010	-0.273 to -0.037	***
INTR	-0.137	0.066	-2.09	0.037	-0.266 to -0.008	**
NPL × INTR	-0.150	0.087	-1.74	0.082	-0.320 to 0.019	*
Constant	3.227	1.227	2.63	0.009	0.822 to 5.633	***

*Model Summary: Mean dependent variable = 0.174; Standard deviation = 1.942; Number of observations = 110 R^2 (overall) = 0.406; R^2 (within) = 0.342; R^2 (between) = 0.619; F-statistic = 24.25 ($p < 0.001$); ***$p < 0.01$, **$p < 0.05$, *$p < 0.10$*

Source: Author's Computation (2023)

Table 4 presents the results of the random effects regression analysis examining the impact of credit risk and interest rate on the financial performance of Deposit Money Banks.

The coefficient of determination (R^2) is 0.406, indicating that approximately 40.6% of the variation in financial performance is explained by the explanatory variables included in the model. The within R^2 of 0.342 further suggests that 34.2% of the variation within banks over time is accounted for by the model. The F-statistic (24.25) with a probability value of 0.000 confirms that the model is statistically significant.

The results show that non-performing loans (NPL) have a negative and statistically significant effect on financial performance (β = -0.155, p = 0.010). This implies that an increase in credit risk leads to a decline in the price-earnings ratio of banks. This finding is consistent with theoretical expectations, as higher levels of bad loans reduce profitability and investor confidence.

Similarly, interest rate (INTR) exhibits a negative and statistically significant effect on financial performance (β = -0.137, p = 0.037). This suggests that higher interest rates may adversely affect bank performance, possibly due to reduced borrowing demand and increased loan default risk.

The interaction term (NPL × INTR), which captures the moderating effect of interest rate, has a negative coefficient but is only weakly significant at the 10% level (β = -0.150, p = 0.082). This indicates that interest rate may weaken the relationship between non-performing loans and financial performance; however, the effect is not statistically significant at the conventional 5% level.

The findings indicate that credit risk and interest rate significantly influence financial performance. However, there is no strong evidence to support the moderating role of interest rate at the 5% significance level.

Multicollinearity Test (Variance Inflation Factor – VIF)

Table 5: Variance Inflation Factor (VIF)

Variable	VIF	Tolerance (1/VIF)
NPL	1.32	0.758
INTR	1.18	0.847

NPL × INTR	1.45	0.690
Mean VIF	1.32	—

The Variance Inflation Factor (VIF) was employed to assess the presence of multicollinearity among the explanatory variables. The results in Table 4.4 show that all variables have VIF values well below the threshold of 10, with a mean VIF of 1.32.

This indicates that there is no serious multicollinearity problem in the model. The tolerance values are also sufficiently high (greater than 0.1), further confirming that the independent variables are not highly correlated.

The regression estimates are reliable and not distorted by multicollinearity.

Cross-Sectional Dependence Test (Pesaran CD Test)

Table 6: Pesaran Cross-Sectional Dependence Test

Test	Statistic	p-value
Pesaran CD	1.21	0.226

The Pesaran Cross-Sectional Dependence (CD) test was conducted to examine whether residuals are correlated across banks. The result shows a test statistic of 1.21 with a p-value of 0.226, which is greater than the 5% significance level.

This implies that the null hypothesis of no cross-sectional dependence cannot be rejected, indicating that the residuals are independently distributed across banks.

Conclusion: There is no evidence of cross-sectional dependence, suggesting that shocks affecting one bank do not significantly spill over to others.

5. Conclusion and Recommendations

This study examined the effect of credit risk, proxied by non-performing loans (NPL), on the financial performance of Deposit Money Banks (DMBs) in Nigeria, while also assessing the moderating role of interest rate. The analysis was based on panel data covering eleven banks over a ten-year period (2013–2022), using a random effects estimation technique.

The findings reveal that non-performing loans exert a negative and statistically significant effect on financial performance, as measured by the price-earnings ratio. This implies that higher levels of credit risk deteriorate bank performance by reducing profitability and investor confidence. This outcome aligns with theoretical expectations and confirms that asset quality remains a critical determinant of banking sector performance.

Furthermore, the results show that interest rate has a negative and statistically significant direct effect on financial performance. This suggests that increases in interest rates may adversely affect bank performance, possibly due to reduced borrowing demand and heightened default risk among borrowers.

However, the interaction term between non-performing loans and interest rate was found to be statistically insignificant at the 5% level, although weakly significant at the 10% level. This indicates that interest rate does not strongly moderate the relationship between credit risk and financial performance. In other words, while interest rate may slightly influence the strength of this relationship, its moderating role is not robust.

Overall, the study concludes that credit risk is a major driver of bank performance, while interest rate plays a limited moderating role. The results also confirm that the model is statistically valid and reliable, with no issues of multicollinearity or cross-sectional dependence.

Based on the empirical findings of this study, the following recommendations are proposed:

Strengthening Credit Risk Management

Deposit Money Banks should prioritize the reduction of non-performing loans by implementing stricter credit appraisal systems, enhanced borrower screening, and continuous monitoring of loan performance. Since NPL has a significant negative effect on financial performance, improving asset quality is essential for sustaining profitability and investor confidence.

Adoption of Risk-Based Lending Practices

Banks should adopt more robust risk-based lending frameworks that properly price loans according to borrower risk profiles. This will help minimize default rates and ensure that credit expansion does not compromise financial stability.

Interest Rate Policy Coordination

Although interest rate does not significantly moderate the relationship between NPL and performance, its direct negative effect on performance suggests that monetary authorities, particularly the Central Bank of Nigeria, should carefully balance interest rate policies to avoid excessive tightening that could reduce lending activities and increase loan defaults.

Enhanced Regulatory Oversight

Regulatory authorities should strengthen supervision of banks' loan portfolios to ensure compliance with prudential guidelines. This includes enforcing stricter provisioning requirements and early warning systems for identifying deteriorating assets.

Diversification of Income Sources

Banks should diversify their income streams beyond traditional lending activities to reduce over-reliance on interest income. This will help cushion the adverse effects of both rising non-performing loans and fluctuating interest rates.

Data Monitoring and Early Warning Systems

Banks should invest in advanced data analytics and early warning systems to detect potential loan defaults early. This proactive approach can significantly reduce the accumulation of non-performing loans.

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